

ANNUAL REPORT

epidemiology

The Epidemiology Program promotes the use of scientific knowledge about health and disease in populations to effectively carry out public health assessment, policy development and assurance.

EPIDEMIOLOGY SERVICES are necessary to enable public health agencies to conduct several essential public health services:

Monitor health status to identify community health problems.

Diagnose and investigate health problems and health hazards in the community.

Inform, educate, and empower people about health issues.

Evaluate effectiveness, accessibility, and quality of personal and populationbased health services.

Research for new insights and innovative solutions to health problems

National Healthy People
2010 Objectives, Draft for
Public Comment

Epidemiology is the science of public health. Public health assessment and epidemiological analysis are the cornerstones of public health action and decision making.

LLCHD and the Lincoln-Lancaster County Board of Health have long believed in the epidemiological function as a necessary foundation for core public health functions. The Epidemiology Program leads and supports LLCHD in developing assessment tools and applying epidemiological analysis to public health prevention, protection and health promotion efforts.

Program planning, management and evaluation activities are dependent upon public health surveillance and data systems. These systems require epidemiological capacity for data collection, analysis, interpretation and dissemination. Epidemiology services are also essential for response to communicable disease outbreaks, environmental emergencies and reported clusters of disease. Finally, epidemiological capacity is crucial to the public health role in community health planning and policy development.

ASSESSMENT

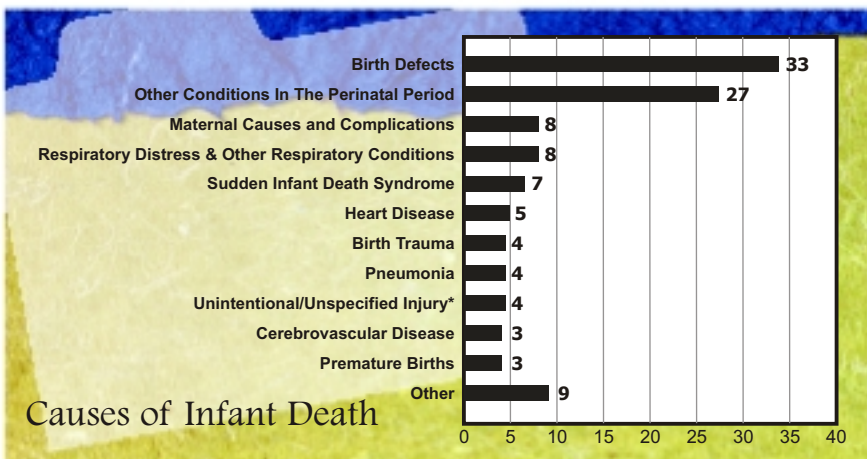
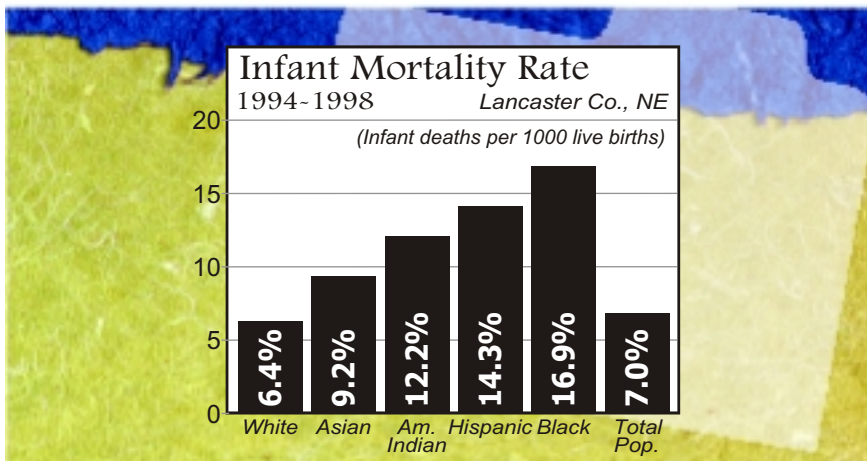
The Epidemiology Program implements core community health assessment activities. These include analysis and

monitoring of community health indicators; investigation of community health needs and determinants of community health; development of community assessment tools; research on national and state trends; application of appropriate research and statistical methodologies; and interpretation and dissemination of community health assessment information through published reports and other means.

PUBLIC HEALTH DATA RESOURCE

The Epidemiology Program is instrumental in providing relevant public health data and epidemiologic information to individuals and organizations throughout the community. This information is used for community needs assessment, policy development, health promotion and public education, evaluation and improvement of services and research purposes.

Every year, epidemiological information and assistance is provided to hundreds of interested citizens, community agencies, health professionals, students, businesses, schools, human service providers, researchers and elected officials, including the Board of Health, City Council, Mayor's Office, County Board of Commissioners and the Nebraska Legislature.



The Epidemiology Program is the locus of public health data capacity. Staff collect and manage a wide array of public health data-sets in electronic form so that the analysis can be applied to the surveillance and study of public health problems. This data includes population health data-sets, health care-based data, public health program data, outbreak and health event

surveillance data, environmental risk data, demographics and other community information.

Management of this public health data resource involves equal attention to new data acquisition, maintenance of existing data archives and planning for future data collection and analysis.

MAJOR PUBLIC HEALTH SURVEILLANCE DATA SYSTEMS

- Vital Statistics (Births, Deaths, Marriages/Divorces): Since 1987, annual
- Cancer Incidence: since 1987, annual
- Adult Behavioral Risk Factor Survey: since 1989, biannual
- Youth Risk Behavior Survey: since 1991, biannual
- Injury Surveillance (E-coded emergency care data): Since 1992, annual
- Minority Behavioral Risk Factor Survey: 1994, 1999
- Sexually Transmitted Diseases: since 1985, annual
- Acute Care (inpatient hospital discharges): since 1995, annual
- Annual Demographic Estimates for Health Assessment
- Environmental Health Hazard Databases
- Other Geographic Information Systems based Datasets

KEY COMMUNITY HEALTH REPORTS AND ASSESSMENT PROJECTS

- Healthy People 2010
- Healthy People 2000 Report Card
- Public Health Data Interactive Website Development

- Hospital Discharge Data: A New Public Health Data Resource
- Race/Ethnicity Trends in Lancaster County
- Youth and Motor Vehicle Safety
- 1999 Behavioral Risk Factor Survey
- 1999 Youth Risk Behavior Survey
- 1998 Vital Statistics
- Infant Care Community Needs Report
- Leading Causes of Injury, Death and Hospital Care Among Infants and Young Children
- Information and Technology Needs Among Human Service Agencies
- Wellness and Health Behaviors Among a Sample of Public Employees
- Follow Up Survey on Barking Dog Complaints
- Maternal and Infant Health Progress Review
- Numerous Assessment Projects Employing Geographic Information Systems Techniques and Data
- Sexual Activity, Births, and STDs Among Teens
- Child Abuse/Neglect Data Assessment
- Community Health Status and Surveillance in Lancaster County

- Community Assessment Data for Mobile Health Clinic Planning
- Injury Incidence Analyses
- Demographic Estimates for Public Health Assessment

MINORITY HEALTH SURVEY 1999

- Second effort to broadly survey the health status of local minority populations in this decade.
- Topic Areas Covered:
- General health status
- Health insurance coverage
- Access to and use of health and dental care
- Injury prevention
- Exercise
- Tobacco and alcohol use
- Women's health screening
- Prenatal care
- Child injury prevention, supervision, lead screening, dental care and vaccinations
- Beliefs about HIV/AIDS
- Chronic disease risk factors and screening
- Beliefs about critical community problems

POLICY DEVELOPMENT AND COMMUNITY PLANNING

The Epidemiology Program supports policy development by providing an epidemiological perspective to decision making processes, promoting effective utilization of public health data and facilitating public health strategic planning and community

processes, promoting effective utilization of public health data, and facilitating public health strategic planning and community health initiatives.

The Epidemiology Program works in partnership with all department programs, the Board of Health and other community entities to support effective policy development and community health planning. Epidemiology staff strive to assure that epidemiological issues and data on community health and program effectiveness are utilized in departmental planning and policy development. Staff also play a role in community health planning and coalition building by facilitating or participating in collaborative community initiatives to address health and human services planning, assessment and system development.

Healthy People 2010

A process conducted during 1999 to set objectives for community health improvement by the year 2010.

- Covers 21 topic areas in all major realms of public health, personal health status, behavioral health, environmental health, prevention and public health protection

- Conducted through work groups composed of key community stakeholders for each topic area, with assistance from community focus groups, surveys, and other data collection focus groups, surveys and other data collection
- Selected key public health issues in the community under each topic area
- Selected indicators to measure the status of these key public health issues and their progress over the decade
- Selected specific Year 2010 Objectives for improvement on key indicators
- Developed White Papers for each topic area, which define key issues, problems, priorities, contexts, key data and indicators, progress needed, health disparities, recommendations and community infrastructure that will be necessary to achieve progress

SELECTED POLICY DEVELOPMENT & COMMUNITY PLANNING WORK

Healthy People 2010

Governor's Blue Ribbon Panel on Infant Mortality

Epidemiological Support/Consultation to Policy Development and Communication (all divisions)

Community Health Endowment Board: Data Provision/Testimony

Minority Health Initiatives Planning and Grantseeking

City Match Data Use Institute Team

Departmental Planning and Budget Processes

Orientation of Community Leaders to Community Health Status and Assessment Issues

Public Health Legislation: Research and Testimony

Response to Policy Maker Requests for Epidemiologic Data

"Outcomes Toolkit" Community Planning Software Testing and Evaluation

PROGRAM ASSESSMENT

The Epidemiology Program provides analytical support to programs throughout the department, helping them to conduct needs assessments, develop program surveillance strategies, design program databases and evaluation instruments, analyze program data and evaluate and report program results. Epidemiology staff promote the use of program data in policy development and public reporting and help programs use epidemiologic approaches and assessment data to support program activities.

SELECTED PROGRAM ASSESSMENT PROJECTS

Healthy People 2010 Indicators
and Data

Mobile Health Clinic Needs
Data/Surveys

Immunization Program Needs
Assessment

Home and Community-Based
Nursing Needs Assessment

Barking Dogs Needs
Assessment/Survey

Infant Care Openings Survey

Infant Care Provider and Parent
Survey Reports

Healthy Homes Data Analysis and
Reporting

Take the Challenge Physical
Activity Promotion Evaluation

High Risk Program Annual
Reporting

High Risk Program Needs
Assessment

Restaurant Tobacco Policies Survey

Animal Control Dispatch Planning

WIC Program Client and Needs
Data

Mobile Health Clinic Planning Data

Mobile Health Clinic Needs
Assessment Survey

Childhood Lead Poisoning
Surveillance

Family Care Solutions/CDV
Reporting

Consultation on surveys
development, community
assessment data (all programs and
divisions)



GEOGRAPHIC INFORMATION SYSTEMS

Geographic Information Systems (GIS) is rapidly becoming an important assessment tool in the public health field. GIS is computer and allied technology that allows one to analyze public health data on a geographic dimension. GIS helps to clarify and emphasize spatial patterns in community health, quickly retrieve data relevant to a geographical area, display many layers and types of community information in the same space and model the behavior of disease and environmental events.

LLCHD has been nationally recognized for its work on GIS applications in public health at the local level. LLCHD efforts to develop GIS technology and staff

Mobile Health Clinic Planning
Data/Surveys

Geographic Characteristics of
Births

WIC Program: Client and Needs
Data

High Risk Program Planning and
Evaluation

Childhood Lead Poisoning
Screening Data

Child Care Needs and Program
Data Mapping

Animal Control Dispatch Planning,
Barking Dog Complaints
Documentation and Community
Data

Street mapping (various program
needs)

Digital photo mapping

Vulnerable Populations and
Community Sites Databases

Environmental Health Risk Survey
Data

Tier II (Hazardous Chemical
Storage Sites)

Leaking Underground Storage
Tanks

NPDES (Waterway Discharge
Permits)

Toxic (Air Pollutant) Release
Inventory

Special Waste Database

Soils Data for Risk Analysis and
Health Threat Response

Air Pollution Sources, HAP
concentrations, and Air Monitor
Locations

Water Program: Wells/Protection
Areas, Well Testing Data, Lake
Advisories, Workload Planning
Data and GPS/ Wells Data Building
Project

Food Program Data for Workload
Planning

Household Hazardous Waste
Collections

Solid Waste Program
Documentation for Enforcement
and Workload Planning

Noise Control Enforcement

Analyses for Land Use Planning
Review

Risk Management Planning
Technical Support ("112r"
businesses)

GIS DEVELOPMENT

GIS Access Projects

Development of Tailored Mapping
Systems for Use by Program Staff
in Animal Control, Water Program,
Child Care and Public Health
Nursing

Development (Programming) of
New Analytical Tools for Public
Health GIS

Training and Upgrade of Staff
Programming/System
Development Skills

Laptop GIS Development for
Infield Technical Assistance

National, State and Local
Presentations Given on GIS in
Public Health

Educational Presentations

Community Health Data/GIS
Website Development

GPS (Global Positioning System)
acquisition, beta testing, usage
plans and data linkages

GIS Database Management,
Development and Planning (e.g.,
data acquisition and manipulation,
data dictionary maintenance,
technology needs assessment, etc.

Development of Cooperative
Interagency Agreements on
GIS/GPS Data Collection and Data
Sharing

EPIDEMIOLOGIC RESPONSE

The Epidemiology Program helps to assure community health during infectious disease outbreaks, environmental emergency response events or community health threats by coordinating epidemiologic response to these threats.

This year, numerous disease outbreaks and incidents of concern called for epidemiologic action. These included outbreaks of E. coli infection as well as some unidentified foodborne illnesses and other outbreaks; surveillance and preventive measures for Rubella and other communicable diseases; and environmental response incidents requiring

followup. Disease and toxic substance research, case follow up, data collection, analysis and reporting were employed as needed.

BIOTERRORISM

Concerns about bioterrorism sparked a number of training, grant writing, and interagency planning efforts by a cross-divisional bioterrorism "team." One result is that the health department has been awarded a \$25,000 grant for the new calendar year to enhance epidemiologic surveillance for bioterrorism and infectious diseases.

EPIDEMIOLOGIC CAPACITY

Skilled analysts and quality data/information systems are necessary to provide effective epidemiologic support for public health activities. Epidemiology services are provided by staff trained in epidemiology, demography, sociology, survey design, program and policy analysis, communication, planning, quantitative and qualitative social data methods and geographic information systems.

The Epidemiology Program continues to be staffed by three full-time personnel, with the assistance of one or two interns. Important strides were made this year in efforts to strengthen professional personnel capacity in the program.

One advance was the successful reclassification of the second Epi position from Program Monitor to the new classification of Assistant Epidemiologist. The second was the approval of permanent funding for what could be called the "epidemiologic data systems" position. This is a position which partly functions as the GIS specialist for the department and for which an appropriate, approved classification is still in development.

GRANTS/AWARDS

The Epidemiology Program continues to receive Public Health Prevention block grant funds, although these are expected to shrink in the near future. Grant writing efforts were maintained in an attempt to build epidemiological and geographic information systems capacity, with some success in the area of bioterrorism surveillance enhancements for the year 2000.

Nebraska Department of Health \$16,315

Public Health Prevention Block Grant